ASH FIRE
BURNED AREA EMERGENCY STABILIZATION PLAN

AGENCY/UNIT: U.S. Fish and Wildlife Service
Ash Meadows National Wildlife Refuge

LOCATION: Nye County, Nevada

DATE: March 9, 2005

PREPARED BY: Ash Meadows Refuge Staff and Ecological Services
Southern Nevada Staff

Submitted By:

Dick Birger, Project Leader Date
Desert National Wildlife Refuge Complex

U.S. DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY STABILIZATION PLAN

PART I REVIEW AND APPROVAL

I. EMERGENCY STABLIZATION PLAN CONCURRANCE

☐ **Concur**

☐ **Concur with Revision**

☐ **Disapproved**

Explanation for Revision or Disapproval:

Project Leader, Desert NWRC Date

II. EMERGENCY STABILIZATION CONCURRENCE

☐ **Concur**

☐ **Concur with Revision**

☐ **Disapproved**

Explanation for Revision or Disapproval:

CNO Fire Management Coordinator Date

III. EMERGENCY STABILIZATION CONCURRENCE

☐ **Concur**

☐ **Concur with Revision**

☐ **Disapproved**

Explanation for Revision or Disapproval:

Assistant Refuge Supervisor, California/Nevada Operation Date

IV. EMERGENCY STABILIZATION APPROVAL

☐ **Approved**

☐ **Approved with Revision**

☐ **Disapproved**

Explanation for Revision or Disapproval:

Manager, California/Nevada Operation Date

EXECUTIVE SUMMARY

This plan addresses emergency stabilization of fire effects on Ash Meadows National Wildlife Refuge as a result of the 80acres Ash Fire in Nye County, Nevada. The plan has been prepared in accordance with the *U.S. Department of the Interior, Departmental Manual, Part 620: Wildland Fire Management, Chapter 3.6:* and the U.S. Fish & Wildlife Service Manual 095 FW 3.9 with implementation guidance Chapter 11 FWS Fire Management Handbook. This document provides emergency stabilization recommendations for U.S. Fish & Wildlife Service lands within the Ash Fire burned area.

The primary objectives of the Ash Fire Burned Area Emergency Stabilization Plan are:

- To prescribe post-fire mitigation measures necessary to protect human life, property, and critical cultural and natural resources;

- To promptly mitigate the unacceptable effects of the fire impacts on lands within the burned area in accordance with management policy and guidelines and all relevant federal, state/local laws and regulations;

The U.S. Department of the Interior, Burned Area Emergency Response (BAER) Team has conducted an analysis of fire effects on the cultural and natural resources of Ash Meadows National Wildlife Refuge (NWR) using ground reconnaissance methods. The plan primarily addresses impacts to the Federally listed endangered species associated with Ash Meadows NWR. Ash Meadows NWR was established in 1984 primarily to protect 13 threatened and endangered species and at least 25 plants and animals found no-where else in the world. The abundance of indigenous life distinguishes Ash Meadows as having a greater concentration of endemic species than any other area of its size in the United States, and the second greatest concentration of endemic species in North America. The refuges large number of endemic species is directly related to its unique hydrogeology. Ash Meadows NWR is a major discharge point for a vast underground aquifer with more than 30 major seeps and springs discharging over 17,000 acre feet of water per year and supporting a vast network of spring, wetland, and riparian habitat in the Mojave Desert.

While the Ash Fire burned only 80 acres of the approximately 24,000 acre Ash Meadows National Wildlife Refuge, the burned affected important spring, riparian, and wetland habitats including burning over the outflow to one major spring. Due to prior land management practices, before establishment of the refuge 1984, a major effort has been underway to control established noxious weeds and restore native spring, riparian, and wetland habitats.

Survival of many of the endemic species within Ash Meadows NWR is dependent upon emergency control of noxious weeds and reestablishment of native cover to prevent the spread of noxious weeds into the burned area. For these reasons U.S. Fish and Wildlife Service refuge biologists, biologist of the Service's Endangered Species Recovery Program, and members of the Ash Meadows noxious weed and habitat restoration program have recommended emergency treatment of noxious weeds and planting of native plant species to prevent significant loss of native species habitat within the Ash Fire Burned Area. Monitoring of noxious weed emergence and establishment native plantings are included in the plan to determine if supplemental treatments will be necessary.

This plan documents that damage occurred to the resources of Ash Meadows NWR and provides specific costs for emergency stabilization actions necessary to ensure that critical native habitats adequately recover during the next growing season. These actions are consistent with the approved recovery plan for Ash Meadows which support the Federal endangered species and rare endemic plants The legislative mandate for the refuge states that Ash Meadows National Wildlife Refuge is to be managed *"to conserve (A) fish or wildlife which are listed as endangered species or threatened species….or (B) plants…"* 16 U.S.C. 1534. All specifications are fully consistent with the approved Land Management Plans (1989), Fire Management Plan (2004), and Draft Comprehensive Conservation Plan

(2004) for the Ash Meadows National Wildlife Refuge and Desert National Wildlife Refuge Complex, as well as the *Recovery Plan for Endangered and Threatened Species of Ash Meadows, Nevada*.(1990).

FIRE INFORMATION

The Ash Fire started on March 9, 2005 as the result of human cause ignition within the boundary of Ash Meadows National Wildlife Refuge. Refuge staff, volunteers and the Interagency fire crews including BLM, Park Service, Forest Service and Nevada Division of Forestry responded. On March 10th, 2005 the Ash Fire was declared contained and county and local resources were released. Suppression tactics included direct and indirect attack with limited hand-line, and structure protection. The Ash Fire was declared controlled on March 11, 2005.

ISSUES AND OBJECTIVES

The Ash Meadows Refuge Manager, biologist and southern Nevada Ecological Services fisheries biologist initiated preliminary damage assessment and photo documentation of all impacts to refuges resources.

Issues identified by Refuge Staff included:

- Loss of Endangered, Threatened, and Endemic Species Habitat
- High Potential for Noxious Weed Spread within the Burned Area
- Need for Immediate Reestablishment of Native Plant Cover
- Need to Monitor Noxious Weeds and Replanting Treatments

Each of the above issues directly relate to mitigating impacts of the Ash Fire to management and recovery of the Federal endangered or threatened species and species endemic to Ash Meadows NWR that are protected under the enabling legislation for the refuge and are therefore fundable under the U.S. Department of the Interior, Burned Area Emergency Stabilization Program.

Implementation of the mitigation treatments for these species and their habitat should be initiated as quickly as possible.

This Emergency Stabilization Plan is the initial funding request for Emergency Stabilization funds. Additional supplemental requests may be made after this document has been reviewed and approved. It is recommended that supplemental requests be made on an as needed basis. The Emergency Stabilization Funds for this plan extends over one year from the date of containment of the fire. At the conclusion of the funding period, a final Accomplishment Report will be due to the approval authority. The Accomplishment Report will document the funding received (initial and supplemental funding), treatments installed, the effectiveness of the installed treatments, and the results of monitoring activities. This Plan was submitted to the approving official, in accordance with Interagency Burned Area Emergency Stabilization and Rehabilitation guidelines within 7 days of fire containment.

U.S. DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY STABILIZATION PLAN

PART A FIRE LOCATION AND BACKGROUND INFORMATION

Fire Name	Ash	**Jurisdiction**	**Acres**
Fire Number	NV-AMR-BK6Y	U.S. Fish & Wildlife Service	70
Agency Unit	FWS	Bureau of Land Management	10
Region	California/Nevada Operations	Private	0
State	Nevada		
County(s)	Nye		
Ignition Date/Manner	March 9, 2005 Human Caused		
Zone	Western Great Basin		
Date Contained	March 10, 2005		
Date Controlled	March 11, 2005	**TOTAL**	80

PART B NATURE OF PLAN
Type of Plan (check one box below)

Initial Submission	X
Update and Revising Initial Submission	
Supplying Information For Accomplishment To Date On Work Underway	
Different Phase Of Project Plan	
Final Report (To Comply With The Closure Of The EFR Account	

PART C EMERGENCY STABILIZATION OBJECTIVES

- Locate and stabilize severely burned conditions that pose a direct threat to human life, property, or critically important cultural and natural resources.

- Recommend post-fire emergency stabilization prescriptions that prevent irreversible loss of natural and cultural resources.

- Conduct immediate post-burn reconnaissance for fire suppression related impacts to threatened and endangered (T&E) species, and cultural sites.

- Develop monitoring specifications design to document relative effectiveness of emergency stabilization treatments or whether additional emergency stabilization treatments are required.

U.S. DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY STABILIZATON PLAN

PART D TEAM ORGANIZATIONS, TEAM MEMBERS, RESOURCE ADVISORS

BAER/RESOURCE ADVISORS: (Note: Resource Advisors are individuals who assisted the BAER Team with the preparation of this plan. See Part H of this plan for a full list of agencies and individuals who were consulted or otherwise contributed to the development of this plan.

NAME	AFFILIATION / SPECIALTY
Dick Birger	Project Leader, Desert NWRC
Sharon McKelvey	Refuge Manager, Ash Meadows NWR
Cristi Baldino	Wildlife Biologist, Ash Meadows NWR
Shawn Goodchild	Fisheries Biologist, ES southern Nevada FO
Lee Nelson	FMO, Desert NWRC
Lee Talbot	Maintenance Worker, Ash Meadows NWR
Mark James	IPM Contractor
John Levis	GIS, USFWS
Lou Ann Speulda	Archeologist, USFWS

U.S. Department of the Interior
BURNED AREA EMERGENCY STABILIZATION PLAN

PART D - SUMMARY OF APPROVAL AUTHORITIES

ACTIVITIES REQUIRING LINE OFFICER'S APPROVAL Fire Suppression Damages (charged to Fire Suppression)	COST
SUPPRESSION	
Road Regrading (suppression cost not tracked in this plan)	
Culvert Replacement (suppression cost not tracked in this plan)	

ACTIVITIES REQUIRING REGIONAL OFFICE APPROVAL Emergency Stabilization Requests (Charged to ES)	COST
V-1 Noxious Weeds Control	**$29,209**
V-2 Native Plantings	**$25,182**
V-3 Monitor Noxious Weeds & Native Planting Treatments	**$14,032**
SUBTOTAL	**$68,423**

ACTIVITIES REQUIRING NATIONAL OFFICE APPROVAL Emergency Stabilization Requests (Charged to ES)	COST
SUBTOTAL	

U.S. DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY STABILIZATION PLAN

PART E SUMMARY OF ACTIVITIES

The SUMMARY OF ACTIVITIES table identifies emergency stabilization costs charged or proposed for funding from fire suppression rehabilitation, emergency stabilization, or rehabilitation funding sources. The total cost of the treatments excluding the costs absorbed by the fire (fire crew, labor and associated overhead) is displayed as either Fire Suppression Rehabilitation (**SR**), Emergency Stabilization (**ES**), Rehabilitation (**R**), or Agency Operations/Other (**OP/O**).

No.	TREATMENT SPECIFICATION	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
					SR	ES	R		
V-1	Noxious Weed Control	Acre	$649	45	-	ES.	-	C	$29,209
V-2	Native Plantings	Acre	$2,518.2	10	-	ES	-	C	$25,182
V-3	Monitor Noxious Weeds & Native Planting Treatments	Survey	$1,169.3	12	-	ES	-	C	$14,032
TOTALS					-		-		

INTERAGENCY
BURNED AREA EMERGENCY STABILIZATION PLAN

PART F - SPECIFICATION

SPECIFICATION TITLE:	Noxious Weed Control	**JURSIDICTIONS:**	FWS-AMNWR
PART E: LINE ITEM:	Noxious Weed Control	**FISCAL YEAR:**	2005/2006
ESR REFERENCE #:	6.3.2.3 Revegetation	**SPECIFICATION TYPE:**	ES

WORK TO BE DONE

A. General Description:

Utilize integrated pest management practices (herbicides, biological mechanical, and cultural control methods), as appropriate to prevent the spread and establishment of noxious weeds and undesirable exotic species known to exist within the fire perimeter of the Ash Fire and as defined by monitoring.

B. Location (Suitable) Sites:

Control all weeds as defined on the Noxious Weed Map (Appendix III), as “Existing“locations. There are approximately 45 acres of known weed locations.

C. Design/Construction Specifications:

1. Control noxious/non-native weeds within the burn area and as identified by monitoring. Known infestation sites contain primarily, Hyssop bassia (*Bassia hyssopifolia*), and Saltcedar (*Tamarix spp.*) Multiple treatments will be required with a variety of control techniques. Ground application of chemicals including but not limited to Garlon, Glysophate, Crossbow®, Arsonal® may be required. The AMNWR staff should consult with the US Fish and Wildlife Service’s Ecological Services office in the development of Pesticide Use Proposals for specified treatments. Timing or year of application may need to be adjusted to ensure treatment of each species is conducted in the proper phenological stage to ensure the protection of recovering native and endemic species.
2. Ground applications will include the use of GPS mapping to ensure treatment accuracy and proper documentation of weed control efforts.
3. Follow-up control in the fall or subsequent years (a request for Emergency Rehabilitation funding will be necessary), on treated sites.
4. Locate, map, and document (using photography, topographic maps, and Global Positioning System--GPS—technology), new weed occurrences within burned area. Document percent control or kill of noxious weeds.
5. Initiate Agency approved control measures on new weed occurrences where monitoring demonstrates the establishment or expansion of known weed populations.
6. Complete supplemental funding request for ESR funding for noxious weed control of new weed populations within the burned area.

D. Purpose of Treatment Specification:

Control or contain existing noxious weed occurrences to prevent further spread onto uninfested sites within the burn area. Protect the ecological integrity and site productivity of four (4) Threatened or Endangered plant and animal species and their associated habitats on lands administered by the AMNWR. Prevent spread of noxious weeds into critical habitats of T&E species on unburned lands within and adjacent to the refuge.

E. Treatment Effectiveness Monitoring

Spot checking of noxious weed sites to ensure control methods are meeting management objectives. An intern from the AMNWR will visit sites controlled every month after initial treatment; this is especially important for weed populations that are sprayed to ensure effectiveness of herbicide application. If both spring and summer/fall applications are used then visits will occur during both these times.

LABOR, EQUIPMENT, MATERIALS, AND OTHER COST:

PERSONNEL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item **Do not include contract personnel costs here (see contractor services below).**	**COST/ITEM**
USFWS – GS-11 Biologist @ $25.80/hour x 8 hours/day x 10 days x 1 year	$2,064
TOTAL PERSONNEL SERVICE COST	$2,064
EQUIPMENT PURCHASE, LEASE, OR RENTAL (Item @ Cost/Hours or Cost/Day or # Days X # Fiscal Years = Cost/Item) Note: Purchase requires written justification that demonstrates cost/item benefits over lease or rental.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST	
MATERIAL AND SUPPLIES (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item)	**COST/ITEM**
Field and Office supplies	$150
TOTAL MATERIAL AND SUPPLY COST	
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X # Fiscal Years = Cost/Item	**COST/ITEM**
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X # Hours X # Fiscal Years = Cost/Item)	**COST/ITEM**
Control weeds with herbicides on 45 acres: ground application, rough terrain – 45 acres @ $311.00/ac x 45 ac	$13,995
Nevada Conservation Corp 900 hour intern	$13,000
TOTAL CONTRACT COST	$26,995

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
2005	Acre	$649	20	$12,980	ES	P,C
2006	Acre	$649	25	$16,229	ES	P,C
2007						
TOTAL	Acre	$649	45	$29,209	ES	P, C

F= Fire Suppression ESR = Emergency Stabilization & Rehab. OP/O = Agency Operating Fund EWP = Emergency Watershed Program	ES = Emergency Stabilization R = Rehabilitation FS = Fire Suppression	P = Agency Personnel Services C = Contract EFC = Emergency Fire Contract FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATES

Put Letter (P,M,T,C, or F) Next to Appropriate Cost Estimate Source (1-5) Below	
1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	P, M, C
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required – cost charged to Fire Suppression Account (not tracked in plan)	

P = Personnel Services M = Materials/Supplies T = Travel C = Contract F = Suppression

RELEVANT DETAILS, MAPS, AND DOCUMENTATION INCLUDED IN THIS REPORT

List Relevant Documentation and Cross-References within ESR Plan
Appendix I – Vegetation Assessment; Appendix III – Native planting area, Noxious Weed Map

INTERAGENCY
BURNED AREA EMERGENCY STABILIZATION PLAN

PART F - SPECIFICATION

SPECIFICATION TITLE:	Native Plantings	**JURSIDICTIONS:**	FWS-AMNWR
PART E: LINE ITEM:	Native Plantings	**FISCAL YEAR:**	2005/2006
ESR REFERENCE #:	6.3.2.3 Revegetation	**SPECIFICATION TYPE:**	ES

WORK TO BE DONE

A. General Description:

Native grasses and forbs will be hand-planted by contract crews to re-establish native vegetation within moderate to high burn severity areas. Native seed will be collected late summer and propagated at federal and private nurseries to produce tublings for planting in fall and winter of 2005 and spring of 2006 (calendar year not fiscal year). The need for replanting and application rates was developed in consultation with the local staff from the FWS. The plantings will be conducted in conjunction with noxious weed control and is intended to reduce encroachment by non-native invasive species and protect biological diversity of plant communities and critical T&E habitats. Approximately 10 acres will be planted with native species.

B. Location (Suitable) Sites:

The areas to be replanted are within the Ash fire perimeter in and along historic spring/stream channels and in areas where noxious weeds have encroached. The replanting will occur mostly in the area of moderate to high burn. The area mostly coincides with the existing noxious weed locations. See Appendix III, Noxious Weed Map.

C. Design/Construction Specifications:

1. The species selected for replanting the burn area will include but not limited to willow, ash, saltgrass and (alkali sacaton). Seed will be collected from local species and propagated under contract with federal and private nurseries.
2. Container stock, grass plugs and willow cuttings will be planted by contract crews under the guidance of Refuge staff.
3. Application timing and completion date: Application timing will correspond to local conditions and predicted success. For fall application, plantings will be applied after the first fall or winter rains and after the fall weed treatment. If plantings cannot be implemented in late fall of 2005, then spring plantings would occur in spring of 2006.

D. Purpose of Treatment Specification:

The purpose of the treatment is to help prevent noxious weed encroachment and protect T&E species and their associated habitats. The native grass plantings are important in reducing bare ground, stabilizing plant communities, reducing spread of non-native invasives and protecting critical habitats of endemic plant species.

E. Treatment Effectiveness Monitoring

See Vegetation Monitoring Specification.

LABOR, EQUIPMENT, MATERIALS, AND OTHER COST:

PERSONNEL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item **Do not include contract personnel costs here (see contractor services below).**	**COST/ITEM**
USFWS – GS-11 Biologist @ $25.80/hour x 8 hours/day x 5 days x 1 year	$1,032
USFWS –GS-12 Archeologist @ $30.00/hour x 8 hours/day X 5 days x 1 year	$1,200
TOTAL PERSONNEL SERVICE COST	$2,232

EQUIPMENT PURCHASE, LEASE, OR RENTAL (Item @ Cost/Hours or Cost/Day or # Days X # Fiscal Years = Cost/Item) Note: Purchase requires written justification that demonstrates cost/item benefits over lease or rental.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST	
MATERIAL AND SUPPLIES (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item)	**COST/ITEM**
Plant materials- 500 plants/acre x 10 acres x $.40/plant x 1 year	$5,000
Native Seed- Saltgrass and saltbush native seed @ $70/lb x 10 lbs. x 1 year	$700
TOTAL MATERIAL AND SUPPLY COST	$5,700
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X # Fiscal Years = Cost/Item	**COST/ITEM**
Archeologist @ $1,500 x 1 Round Trip x 1 fiscal year	$1,500
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X # Hours X # Fiscal Years = Cost/Item)	**COST /ITEM**
Native Seed Collection- (10 person crew x $1,050/day x 5 days x 1 year)	$5,250
Native Plantings- Contract Crew (10 person crew x $1,050/day X 10 days x 1 year)	$10,500
TOTAL CONTRACT COST	$15,750

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
2005	Acre	$2,518	5	$12,591	ES	C
2006	Acre	$2,518	5	$12,591	ES	P,C
2007						
TOTAL	Acre	$2,518	10	$25,182	ES	P, C

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SOURCE OF COST ESTIMATES

Put Letter (P,M,T,C, or F) Next to Appropriate Cost Estimate Source (1-5) Below	
1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	P, E,M, C,
3. Estimate supported by cost guides from independent sources or other federal agencies.	

4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required – cost charged to Fire Suppression Account (not tracked in plan)	

P = Personnel Services M = Materials/Supplies T = Travel C = Contract F = Suppression

RELEVANT DETAILS, MAPS, AND DOCUMENTATION INCLUDED IN THIS REPORT

List Relevant Documentation and Cross-References within ESR Plan
Appendix I – Vegetation Assessment; Appendix III – Ash Fire Perimeter Map.

INTERAGENCY
BURNED AREA EMERGENCY STABILIZATION PLAN

PART F - SPECIFICATION

SPECIFICATION TITLE:	Vegetative Monitoring	**JURSIDICTIONS:**	FWS-AMNWR
PART E: LINE ITEM:	Vegetation recovery, noxious weed monitoring, seeding success	**FISCAL YEAR:**	2005/2006
ESR REFERENCE #:	6.3.2.3	**SPECIFICATION TYPE:**	ES

WORK TO BE DONE

A. General Description:

Monitor noxious weed treatment effects and native plantings recovery within the burned area to determine if management objectives are being met and to identify any future planting or noxious weed control needs. Plants to be monitored include saltcedar, Bassia and plantings of saltgrass.

Monitor for new occurrences of undesirable plant species (noxious and exotic), within the burned area. Monitoring will occur in un-infested areas having a high potential for weed invasion. Monitor for success of noxious weed treatments.

Monitor for establishment of planted native grasses the first year following treatment to determine if revegetation efforts are meeting management goals.

B. Location (Suitable) Sites:

Monitoring for noxious weeds will occur in areas with potential for weed invasion and in areas that are treated for noxious weeds (see Noxious Weed Map).

Monitoring for planting success will occur in treated areas to determine success in competing with noxious weeds and reclaiming bare ground.

C. Design/Construction Specifications:

1. Conduct visual monitoring on known noxious weed occurrences and in areas of potential spread within burned area to determine spread of noxious and invasive plant species. Monitoring protocols will be determined by Ash Meadows National Wildlife refuge staff.
2. Locate, map, and document (using Global Positioning System--GPS—technology), new weed occurrences within burned area.
3. Initiate Agency approved control measures on new weed occurrences where monitoring demonstrates the establishment or expansion of known weed populations.
4. Complete supplemental funding request for ESR funding (or cost-share through a Weed Management Area), for noxious weed control of new weed populations within the burned area.
5. For native planting areas, visual monitoring should be established to determine survival rates of planted species including healthy, sick, dead or missing plants. This data may be used to determine if additional Emergency Stabilization actions will be required.

D. Purpose of Treatment Specification:

Noxious weed and undesirable plant monitoring is required to detect new noxious weed occurrences in the burned area and to monitor known weed densities and determine the effectiveness of treatments.

Monitoring of native grass planting success and effectiveness is required to ascertain the degree of competition with undesirable plant species and determine if additional treatments are necessary to control non-native invasive species and protect ecosystem biodiversity.

E. Treatment Effectiveness Monitoring

LABOR, EQUIPMENT, MATERIALS, AND OTHER COST:

PERSONNEL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item **Do not include contract personnel costs here (see contractor services below).**	**COST/ITEM**
USFWS – GS-11 Biologist @ $25.80/hour x 8 hours/day x 5 days x 1 year	$1,032
TOTAL PERSONNEL SERVICE COST	$1,032
EQUIPMENT PURCHASE, LEASE, OR RENTAL (Item @ Cost/Hours or Cost/Day or # Days X # Fiscal Years = Cost/Item) Note: Purchase requires written justification that demonstrates cost/item benefits over lease or rental.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST	
MATERIAL AND SUPPLIES (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item)	**COST/ITEM**
TOTAL MATERIAL AND SUPPLY COST	
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X # Fiscal Years = Cost/Item	**COST/ITEM**
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X # Hours X # Fiscal Years = Cost/Item)	**COST /ITEM**
Nevada Conservation Corp 900 hour Intern	$13,000
TOTAL CONTRACT COST	$13,000

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
2005	Surveys	$1169.3	5	$5,846.50	ES	P,C
2006	Surveys	$1169.3	7	$8,185.50	ES	P,C
2007						
TOTAL	Surveys	$1169.3	12	$14,032	ES	P,C

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2. Documented cost figures from similar project work obtained from local agency sources.	P, M, C
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required – cost charged to Fire Suppression Account (not tracked in plan)	

P = Personnel Services M = Materials/Supplies T = Travel C = Contract F = Suppression

RELEVANT DETAILS, MAPS, AND DOCUMENTATION INCLUDED IN THIS REPORT

List Relevant Documentation and Cross-References within ESR Plan
Appendix I – Vegetation Assessment; Appendix III – Native planting area, Noxious Weed Map

RELEVANT DETAILS, MAPS, AND DOCUMENTATION INCLUDED IN THIS REPORT

List Relevant Documentation and Cross-References within ESR Plan
See Executive Summary and Other Treatment Specifications

APPENDIX I – RESOURCE ASSESSMENTS

INTERAGENCY
BURNED AREA EMERGENCY STABILIZATION PLAN
ASH FIRE
CULTURAL RESOURCE ASSESSMENT

I. OBJECTIVES

- Assess damages to known cultural resources as the result of fire behavior
- Assess damages to known cultural resources as the result of fire suppression activities
- Assess potential risks to known cultural resources as the result from the effects of fire (e.g. erosion, flooding, and exposure to looting and/or vandalism.
- Assess potential risks to known cultural resources as the result of emergency stabilization activities.

II. ISSUES

Are cultural resources known to exist within the fire perimeter? If so, have these resources been subject to direct or indirect effects of fire? What are the requirements for emergency stabilization and/or protection? Do proposed emergency stabilization measures for other resources pose a risk to known cultural resources? If so, what measures may be employed to mitigate adverse effects to those resources?

III. OBSERVATIONS

- A cultural Clearance report has been requested and no ground disturbing activities will take place prior to clearance.

APPENDIX II – ENVIRONMENTAL COMPLIANCE DOCUMENTATION

INTERAGENCY
BURNED AREA EMERGENCY STABILIZATION PLAN
ASH FIRE

WILDLIFE RESOURCE ASSESSMENT

I. OBJECTIVES

- Assess effects of the fire and suppression actions to Federally listed Threatened and Endangered species and their habitats.
- Conduct Section 7 Emergency Consultation with the U. S. Fish and Wildlife Service.
- Prescribe emergency rehabilitation measures and/or monitoring.
- Assess effects of proposed rehabilitation actions to listed species and habitats.

II. ISSUES

- Four Federally listed species and/or habitat areas occur within the fire area.
- No Federally listed species were affected by fire suppression actions.

III. OBSERVATIONS

A. Background

The Ash fire burned approximately 80 acres of the Ash Meadow National Wildlife Refuge (AMNWR) between March 9 and March 11, 2004. The human-caused fire began at approximately 11:00 hours near an unoccupied quarters trailer on FWS refuge land and east of a private residence on the AMNWR. The fire spread from west to east and was eventually stopped by suppression forces. The fire was declared contained on March 10 and controlled on March 11. Approximately 70 acres within the fire perimeter are managed by AMNWR and an additional 10 acres are BLM lands that are cooperatively managed by AMNWR.

No dozer lines were constructed to suppress the fire on the AMNWR. Scratch lines were constructed on the east edge of the burn where heavy fuels are located. Additional suppression actions included use of 1.5 miles of existing roads. Water was obtained from the Big Springs stream. A screen was placed over the 2½ inch draft hose to prevent accidental suction of endangered Ash Meadows Amargosa pupfish.

The AMNWR is located in the Amargosa Desert of southwestern Nevada. The regional climate is arid, with an average annual precipitation of less than 5.0 inches. Nearly two-thirds of the annual precipitation falls between November and March. The average maximum summer temperature exceeds 100 degrees Fahrenheit during July and August. Average minimum temperatures fall below freezing only during the months of December and January. The AMNWR is generally characterized by gently sloping surface deposits covering a broad valley floor. Elevation within the fire area is approximately 2,200 feet above sea level.

The AMNWR has many aquatic and wetland environments as the result of the discharges of a complex, regional groundwater system. Discharge from the aquifer creates over 30 springs and pools on the refuge. No springs were affected by the Ash Fire; only the outflow from one spring.

Common wildlife of the AMNWR include those species typical of warm-temperate deserts and riparian scrublands of the Mohavian Biogeographic Province. Due to water impoundments on the

AMNWR, some open water and interior marshland species are also present. Seven federally listed animal species occur on the refuge, most of which are endemic to the AMNWR.

B. Reconnaissance Methodology and Results

Information for this assessment is based on a review of relevant literature, AMNWR wildlife sighting and habitat inventory information, and consultation with U. S. Fish and Wildlife Service.

The purpose of this assessment is to discuss the potential effects of fire, suppression actions and proposed emergency rehabilitation activities to federally listed species. Only a few of the total array of species that may occur in the area are discussed in this report. The list of species to be addressed was developed from documents referenced in this report and input from AMNWR and FWS Biologists.

This assessment is not intended to definitively answer the many specific species effects questions that are inevitably raised during an incident such as the Ash Fire. The only focus of this assessment is to determine the potential for immediate, emergency actions that may be necessary to prevent further impacts to federally listed species occurring on AMNWR lands.

C. Findings

1. Biological Assessment for Federally Listed Species

Direct effects as described in this report refer to individual mortality, or disturbance that results in flushing, displacement or harassment of the animal. Indirect effects refer to modification of habitat and/or prey species and possible subsequent affects to the species.

ASH MEADOWS AMARGOSA PUPFISH: This species occupies numerous springs and associated outflow streams within AMNWR. It is endemic to this area. Approximately 1.85 acres of designated Critical Habitat were affected by the Ash Fire.

DIRECT EFFECTS: Pupfish are currently rare in the Big Springs outflow due to introduced largemouth bass, but were present in the marsh to either side of the outflow. Because this species was present in the waterways within the fire area, it is thought that the fire may have negatively impacted individual pupfish. Where pupfish occurred in shallow water, the flames may have cause the water to evaporate, thus causing mortality of animals dependent on that water. The flames may have heated the water to a high enough temperature that would cause severe stress to the pupfish and subsequent mortality. If pupfish were isolated into small water pockets due to water evaporation and vegetation shifts, they may have had too little water to provide enough oxygen and perished due to depletion of oxygen in the water. Ash from burned vegetation may have blown into the occupied water causing a sudden, fatal change in water pH; although it appeared that only minor amounts of burned material and ash fell into the stream.

INDIRECT EFFECTS: None.

POST FIRE OBSERVATIONS: Fish were observed in small streams of flowing or standing water in the marsh areas which were visible due to the removal of the surface vegetation by the fire. However, identification of the species was not possible due to the presence of submerged vegetation used as cover. The species observed may have been the nonnative gambusia or sailfin mollies.

ASH MEADOWS SPECKLED DACE: The Ash Meadows speckled dace is endemic to Ash Meadows. This species now occupies only 2 springs and associated outflow streams, although its historic range was similar to the Ash Meadows pupfish. Approximately 1.85 acres of designated Critical Habitat were affected by the Ash Fire.

DIRECT EFFECTS: The Ash Meadows speckled dace was extirpated from Big Springs and its outflow. Therefore, there were no direct effects to this species.

INDIRECT EFFECTS: None.

2. Other Species of Importance

The Ash Meadows vole was last seen in AMNWR in the 1930's and is presumed to be extinct. There have been several undocumented sightings within the refuge and it is listed as a Species of Concern by FWS. No surveys have been conducted. The Ash Fire burned through suitable Ash Meadows vole habitat. The voles build nests in vegetation above the ground and are closely associated with water. Because voles do not burrow, if they were present during the fire, they may have fled into a water course. Existing nests were probably removed by the fire, and foraging opportunities were temporarily reduced. This species is endemic to the AMNWR.

ASH FIRE SPECIES LIST

A species list was obtained from the U. S. Fish and Wildlife Service, Southern Nevada Field Office, on August 5, 2004 for the Longstreet Fire consultation (File No. 1-5-04-SP-528). Cristi Baldino, AMNWR Wildlife Biologist, reviewed the list on March 10 for accuracy, and to determine which species or Critical Habitats may occur within the fire area. This list was verified as still being current on March 14, 2005, by Shawn Goodchild, FWS Biologist, Southern Nevada Field Office. Ecological Services Biologist Goodchild visited the affected area on March 10 and March 11, and finalized the species to address. The following federally listed species occur, or have habitat within the fire area, or were potentially affected by fire suppression actions:

SPECIES	SCIENTIFIC NAME	LISTING STATUS
Ash Meadows Amargosa pupfish & Critical Habitat	*Cyprinodon nevadensis mionectes*	E
Ash Meadows speckled dace Critical Habitat	*Rhinichthys osculus nevadensis*	E

The following species were identified by the FWS as occurring or potentially occurring within or near the Ash Meadows National Wildlife Refuge. Through post fire reconnaissance and consultation with local experts, it was determined that these species or their Critical Habitat were not affected by the fire (no habitat within or adjacent to the fire area and/or inventories prior to the fire determined absence), or expected to be affected by potential post-fire flooding.

SPECIES	SCIENTIFIC NAME	LISTING STATUS	REASON FOR NOT ADDRESSING SPECIES IN THIS REPORT
Bald eagle	*Haliaeetus leucocephalus*	T	No habitat within fire area.
Southwestern willow flycatcher	*Empidonax trailii extimus*	E	No habitat within fire area.
Yuma clapper rail	*Rallus longirostris yumanensis*	E	No habitat within fire area.
Desert tortoise	*Gopherus agassizii*	T	No habitat within fire area.
Devil's Hole pupfish & Critical Habitat	*Cyprinodon diabolis*	E	No habitat within fire area.
Warm Springs Amargosa pupfish & Critical Habitat	*Cyprinodon nevadensis pectoralis*	E	No habitat within fire area.
Ash meadows naucorid & Critical Habitat	*Ambrysus amargosus*	T	No habitat within fire area.

E = Endangered
T = Threatened

IV. RECOMMENDATIONS

A. Fire Suppression Rehabilitation

1. Replace culvert in Big Spring outflow.

B. Emergency Stabilization

1. Management: none

2. Monitoring : none

C. Rehabilitation

1. Management: none

2. Monitoring: none

D. Management Recommendations (non-specification related)

1. It was determined that one population of the Ash Meadows Amargosa pupfish and the associated Critical Habitat were negatively affected by the fire. Emergency rehabilitation efforts described in this BAER report are not expected to adversely affect any of these species. Recommendations proposed in the BAER Vegetation Assessment, if implemented in a timely manner, should mitigate negative fire effects, to some extent, for all species found within the fire area. The determinations documented in this report should be reassessed, and consultation conducted as needed, if additional rehabilitation measures or vegetation management activities are proposed after March 20, 2005. If non-emergency vegetation management activities are proposed for long-term rehabilitation and restoration of the fire area, another Biological Assessment should be prepared.

2. Emergency consultation should be completed by an AMNWR Biologist.

DETERMINATIONS OF EFFECT TO ENDANGERED OR THREATENED SPECIES

ASH MEADOWS AMARGOSA PUPFISH

FIRE EFFECTS: This species and its habitat were negatively affected by the fire. Approximately 1.85 acres of Critical Habitat were impacted by the fire.

SUPPRESSION ACTION EFFECTS: Suppression actions did not affect the Ash Meadows Amargosa pupfish or Critical Habitat. Therefore the determination is **no effect.**

PROPOSED EMERGENCY STABILIZATION ACTION EFFECTS: The road crossing the Big Springs outflow was damaged by heavy vehicular traffic and suppression equipment. Replacement of the culvert will require a temporary diversion of water within pupfish habitat which **may affect, but is not likely to adversely affect the species or adversely modify critical habitat.**

Other proposed burn area emergency treatments should have no effect or a beneficial effect to the Ash Meadow Amargosa pupfish and its habitat. All herbicide applications will follow guidelines to protect aquatic habitats. Therefore, the determination is **no effect.**

ASH MEADOWS SPECKLED DACE

FIRE EFFECTS: Approximately 1.85 acre of the designated critical habitat of the Ash Meadows speckled dace was negatively affected by the fire. However, this species had been previously extirpated from the habitat within the burn area.

SUPPRESSION ACTION EFFECTS: Suppression actions did not effect the Ash Meadows speckled dace or Critical Habitat. Therefore the determination is **no effect.**

PROPOSED EMERGENCY STABILIZATION ACTION EFFECTS: The road crossing the Big Springs outflow was damaged by heavy vehicular traffic and suppression equipment. Replacement of the culvert will require a temporary diversion of water within dace habitat which **may affect, but is not likely to adversely affect the species or adversely modify critical habitat**.

Other proposed burn area emergency treatments should have no effect or a beneficial effect to the Ash Meadow Amargosa pupfish and its habitat. All herbicide applications will follow guidelines to protect aquatic habitats. Therefore, the determination is **no effect.**

SUPPRESSION AND EMERGENCY REHABILITATION MEASURES (detailed information documented in Specifications, Part F)

SUPPRESSION REHABILITATION ACTIONS
Grade roads used by suppression forces
Replace culvert damaged by suppression forces

BURN AREA EMERGENCY TREATMENTS
Noxious weed monitoring and treatment
Native vegetation planting and monitoring

V. CONSULTATIONS

NAME, AGENCY, TITLE	**TELEPHONE**
Shawn Goodchild, FWS Biologist	702-515-5230

VI. REFERENCES

U.S. Fish and Wildlife Service, Ash Meadows National Wildlife Refuge August 2002 Big Springs Emergency Stabilization and Rehabilitation Plan. 2002.

U. S. Fish and Wildlife Service, Recovery Plan for the Endangered and Threatened Species of Ash Meadows, Nevada. 1990.

U.S. Fish and Wildlife Service, Environmental Assessment Proposed Land and Mineral Withdrawal at the Ash Meadows National Wildlife Refuge Nye County, Nevada. 2000.

Nevada Division of Wildlife. Breeding Status of the Southwestern Willow Flycatcher. 2000, 2002, 2003.

VII. ATTACHMENTS

- U. S. FWS Species list dated August 5, 2004 for Ash Fire at Ash Meadows National Wildlife Refuge in Nye County, Nevada.
- T&E Species and Critical Habitat Map
- Emergency consultation documentation on file at the Ash Meadows National Wildlife Refuge Office.

Cristi Baldino, US Fish and Wildlife Service, Ash Meadows NWR, 775-372-5435

INTERAGENCY
BURNED AREA EMERGENCY STABILIZATION PLAN
ASH FIRE

VEGETATION RESOURCE ASSESSMENT

I. OBJECTIVES

- Evaluate vegetation mortality losses and their potential impacts to Threatened, Endangered (T&E) and Sensitive plant species
- Evaluate and assess fire and suppression impacts to vegetation resources and identify values at risk.
- Determine emergency stabilization needs supported by specifications to aid in vegetation recovery.
- Evaluate potentials for invasive plant species encroachment into native plant communities and potential impacts to T&E plant species.
- Provide management recommendations to assist in vegetation recovery and species habitat protection and rehabilitation.
- Assess effects of the fire and suppression actions to Federally listed T&E species and their habitats.
- Conduct Section 7 Emergency consultation with the U.S. Fish and Wildlife Service (USFWS).
- Assess effect of proposed rehabilitation actions to listed species and habitats.

II. ISSUES

- Short and long-term impacts to plant communities and vegetation resources on the Ash Meadows National Wildlife Refuge lands within the Ash Fire.
- Protection and enhancement of other resource values including site biodiversity, meadow riparian plant communities, and T&E species.
- Management strategies which provide for the recovery and revegetation of heavily impacted areas.
- Identification, early detection, and early treatment of non-native invasive species spread within the burned area.

III. OBSERVATIONS

This report identifies and addresses known and potential impacts to vegetation resources within the Ash Fire on the Ash Meadows National Wildlife Refuge (AMNWR). Vegetation resources, for this assessment will be defined as plant communities, individual plant species, T&E plant species, and critical habitats for T&E/Sensitive plants.

Findings and recommendations contained within this assessment are based upon information obtained from personal interviews with AMNWR staff, literature reviews, and field reconnaissance of the fire area.

Reconnaissance of impacted areas was conducted utilizing ground survey methods along with satellite imagery and data contained within the AMNWR Geographical Information System (GIS).

This assessment will attempt to capture the concerns and issues expressed by the AMNWR staff and USFWS Ecological Services staff for the future management of the lands in and near the fire area. It will detail the known damage to the vegetation resource and will outline expected post-fire response and recovery of the vegetation; will discuss revegetation needs and non-native invasive species encroachment; and outline management considerations for recovery of the vegetation resources. Additionally, effects to listed T&E species will be discussed from the fire, fire suppression efforts, and proposed rehabilitation measures.

A. Background

The human-caused Ash Fire started in the late morning of March 9, 2005 near an unoccupied quarters trailer on FWS land and east of a private residence on the AMNWR. Dormant grasses, bassia skeletons, and dead cattails resulted in a rapid initial spread through wetland meadow, burning the FWS trailer, approximately 150 meters of the Big Springs outflow, ash trees, and mesquite trees. The fire was declared contained on March 10 and controlled on March 11. A total of 80 acres has been impacted by the fire, including approximately 10 acres Bureau of Land Management lands (approximately 10 acres) cooperatively managed by the AMNWR and USFWS lands administered by the AMNWR (70 acres).

Resource concerns for vegetation resources include native vegetation loss, short and long-term impacts to meadow and mesquite/ash habitats, and the potential for spread of non-native invasive species. Resource management direction was obtained from the *Ash Meadows Refuge Management Plan* (1987), *Recovery Plan for the endangered and threatened species of Ash Meadows, Nevada* (1990), and information contained within the *Draft Ash Meadows Comprehensive Conservation Plan* (2004).

B. Reconnaissance Methodology and Results

On March 10 and March 11, ground surveys were conducted by AMNWR and Southern Nevada Field Office (SNFO) staff and to map and document vegetation losses and survival; and to determine fire effects to vegetation species. Ground reconnaissance included traversing affected areas on foot, and recording observations on plant community types, species composition, mortality, topographic features, non-native invasive species, fences, and suppression damage. The AMNWR staff assisted in field reconnaissance and interpretation of past BAER rehabilitation efforts on the Big Springs fire.

In order to better address resource issues and concerns, each major issue will be discussed separately. Management recommendations follow these issues to better define treatment actions and prescriptions.

1. Vegetation

Ash meadows is a unique wetlands system associated with springs, seeps, outflow channels and areas with high groundwater tables, including woodlands comprised of mesquite and ash trees and a variety of herbaceous communities. A recent checklist of vascular plants at AMNWR includes 332 taxa, of which 227 (83 percent) are native to the Ash Meadows ecosystem. Eight of the plant species are endemic and their distribution is restricted to the Ash Meadows area. Many of these species have been impacted by historic development of the area. In the early 1960's and 70's, springs and streams were extensively altered and diverted for agricultural development. Thousands of acres were leveled adjacent to the springs for alfalfa and other intensively farmed crops. In the late 1970's the property was purchased by a large land developer and initial work began for planned housing tracts and golf courses. In an effort to protect rare endemic species,

the Nature Conservancy purchased 12,654 acres in 1984 which was then sold to the USFWS that same year.

Primary plant communities that have been mapped in the fire area include salt grass (*Distichilis spicata*), alkali sacaton (*Sporabolis airoides*), sueda (*Suaeda* sp.), saltbush (*Atriplex* sp.), Ash (*Fraxinus velutina* var.*coriacea*), mesquite *(Prosopis glandulosa var torreyana and Prosopis pubescens*), and cattails (*Typha domingensis*). Spring discharge maintains soil moisture in the lowlands while uplands only receive water from rainfall that averages less than 2.75 inches annually.

Ash Meadows is essentially a watered island amidst the expansive Mohave Desert. Because of this feature, however, there still exists endemic species whose existence has been threatened by land disturbance, moisture regime modification, and non-native invasive species expansion.

In order to promote vegetation recovery and maintain ecological integrity of plant communities in the burn area, planting of native species and the control of aggressive non-native invasive species will be required. Specifications have been developed to initiate emergency stabilization actions within the fire to fulfill Agency mandates and federal law for the protection of listed species and their habitats, and the protection of critical natural resources.

Native plantings will be accomplished using native species propagated from locally derived seed sources that are adapted to the sites selected for treatment. Specifications were developed that are consistent with existing management guidelines of the FWS, recovery plans for T&E species and National BAER Policy (DM 620 Chapter 3). Supplemental funding requests may be filed should existing specifications inadequately provide treatment requirements following closer field review of the impacted areas.

2. Non-native invasive species

Non-native invasive species populations existed within the burn area and were being treated under an approved annual weed plan for Ash Meadows NWR. Refuge-wide Pesticide Use Proposals (PUPS) were on file for treatment of non-native invasive species. Field reconnaissance confirmed weed locations and new occurrences were located. Non-native invasive species include salt cedar (*Tamarix ramosissima*), 5-hook bassia (*Bassia hyssopifolia*), London rocket (*Sisymbrium irio*), and flixweed (*Descurainia Sophia*). Russian knapweed (*Acroptilon repens*) is located outside the affected area, but close enough to be of concern.

Saltcedar is found primarily along waterways and has the ability to totally choke out all vegetation in riparian areas. Saltcedar is a primary threat to the recovery of Ash and Mesquite and threatens critical habitat for many wildlife and plant species. Russian knapweed is expanding at an alarming rate. It forms a monoculture, threatening listed plant species and reducing wildlife diversity. The AMNWR has successfully combated Russian knapweed in some areas, however the lack of funding and personnel now threatens the gains made on several large populations.

Management guidelines contained within the *Recovery Plan for the Endangered and Threatened Species of Ash Meadows, Nevada* state that “All non-native animals and plant species must be eradicated from essential habitat.” Additionally, the plan states that “ Historic vegetation must be reestablished in all areas not requiring maintenance of structures for management purposes.”

The most prevalent non-native invasive species in the burn area that is expanding at an alarming rate is Bassia. Bassia is originally from Europe, is common in cultivated fields and probably was introduced to the Refuge through hay. Bassia was present at least since 1996 but has expanded on the Refuge over the past eight years and is spreading rapidly. Phenologically, it takes advantage of disturbed areas, grows to 5 feet in height with 10 foot diameters, and inhibits growth of other plants within its zone of influence. Bassia has a 5-hooked fruit and spines on its stems

that make seed dispersal easy and walking through a stand difficult after maturation. The Ash Fire reduced some accumulations of Bassia, most notably around the FWS quarters trailer; however, it also contributed to fire intensity and spread due to accumulation of old plants in and around trees and shrubs. Like tumble weed, it breaks off at maturity and is transported across the landscape disseminating seed. Where native species are prevalent, Bassia is not found. However, Bassia is an opportunistic non-native invasive species and there is a high probability it will infest the sites disturbed by the fire. Bassia occurrences have been recorded in saltgrass, willow, ash, and mesquite plant communities and on abandoned farm fields. Areas of bare mineral soil that are adjacent to existing weed occurrences will probably be occupied by non-native invasive species seeds. Bassia can only be treated during its early growth stage and native plantings will be required to reclaim bare soil areas to prevent re-infestation and plant growth.

The Refuge does not have good data layers showing all occurrences of non-native invasive species. The map contained within this plan shows the known occurrences of saltcedar within the fire area. However, there are populations that that lie immediately adjacent to the fire area, (these also pose a threat to ecological integrity of plant communities), and there are large acreages of weeds within the fire that have not yet been mapped. Using local knowledge and maps, and based upon field observations, specifications within this plan have identified 45 acres of priority weed treatment areas. This includes approximately 15 acres of Bassia and 30 acres of saltcedar. This acreage figure is conservative. Emergency Stabilization funds requested in this document will be utilized to complete control efforts on existing weed populations to prevent further spread onto uninfested sites.

3. Threatened, Endangered and Sensitive Species

Seven endangered or threatened plant species are found within AMNWR. Information pertaining to these species was obtained from the *Nevada Natural Heritage Data* Base and additional information was sought from the *Fire Effects Information System*. On August 5, 2004, (during the Longstreet Fire) a species list was obtained from the USFWS Ecological Services Office, Las Vegas, Nevada for the Ash Meadows NWR, Nye County, Nevada. This list was verified as still being current on March 14, 2005, by Shawn Goodchild, USFWS Biologist, SNFO. Emergency consultation was initiated on March 9, 2005 by staff from AMNWR.

To gain a better understanding of these listed species, information was obtained from *Recovery Plan for the Endangered and Threatened Species of Ash Meadows, Nevada* and from informational sources provided by the staff of AMNWR. Table 2 below summarizes the TES species considered:

TABLE 2:

Species	**Scientific Name**	**Status**	**Within Fire Area**	**Critical Habitat within Fire?**
Ash Meadows milkvetch	*Astragalus phoenix*	Threatened	N	Y
Spring-loving centaury	*Centaurium namophilum*	Threatened	Y	Y
Ash Meadows sunray	*Enceliopsis nudicaulis var corrugata*	Threatened	N	N
Ash Meadows Gumplant	*Grindelia fraxinopratensis*	Threatened	Y	Y
Ash Meadows ivesia	*Ivesia eremica (=I.kingii var. eremica)*	Threatened	N	N
Ash Meadow	*Mentzelia*	Threatened	N	N

Blazing Star	*leucophylla*			
Amargosa niterwort	*Nitrophila mohavensis*	Endangered	N	N

This report will summarize habitat information for the two listed species that occur within the fire area, but will not repeat information that is available through the Nevada Natural Heritage Program and other supporting literature.

Biological Assessment for Federally Listed Species

Direct effects as described in this report refer to individual plant mortality, or disturbance resulting from fire effects, fire suppression impacts or emergency stabilization actions. Indirect effects refer to modification of habitat and possible subsequent affects to the species.

1. Spring-loving centaury (Centaury): A perennial plant that grows on moist and dry *Sporobolus* meadows and wet clay soils along the banks of streams or in seepage areas. Centaury grows along the edges with rushes and has rebounded in numbers since the removal of livestock off of the Refuge. Critical Habitat was designated at the time of listing on 1,840 acres.

Direct Effects: None expected due to low intensity fire in the wetter areas where the Centaury occur.

Indirect Effects: Indirect effects to the critical habitat of this species as a result of the fire include temporary loss of vegetative cover, and increased risk of loss of biological diversity due to non-native invasive species encroachment.

Post Fire Observations: Centaury recovery through natural regeneration was noted after the Big Springs Fire of 2002. This recovery is to be expected given the phenology and root structure of this species.

Determinations of Effects:

Fire Effects: Natural regeneration of this species is expected along with the regeneration of associated native plants (*Juncus spp.*). However, non-native species may encroach into bare ground areas where the fire affected critical habitat.

Suppression Action Effects: Scratch line was constructed in heavy fuel areas where the Centaury is not typically found. Therefore the determination of suppression effects to Spring-loving Centaury is **no effect.**

Proposed Emergency Stabilization Action Effects: Proposed suppression and burn area emergency stabilization actions for the control of non-native invasive species may impact non-target species within the treatment areas that were not located during surveys. Every effort will be made during herbicide applications to avoid spraying non target species. In the event that individual Centaury plants are within the treatment areas, it was determined that the herbicide treatments may affect individuals but are not likely to effect or cause a trend towards listing, or a loss of population viability of that species. Therefore, the determination of proposed emergency stabilization actions to Spring-loving Centaury is **may effect, not likely to adversely effect.**

2. Ash Meadows gumplant (gumplant): This species is frequently found with the Spring-loving centaury on moist soils influenced by seeps and springs. Critical habitat was designated at 1,968 acres at the time of listing. Several large populations and numerous smaller ones exist, with an estimated combined total of 81,000 plants. Populations are known to exist within the affected area; however, none were observed during the reconnaissance which is to be expected this early in the season.

Direct Effects: Direct effects are known to have occurred to gumplant habitat but no direct impacts on individual plants were observed. Direct effects include the potential loss of individual plants and loss of vegetative cover within the plant community.

Indirect Effects: Indirect effects to the habitat of this species as a result of the fire include temporary loss of vegetative cover, and increased risk of loss of biological diversity due to non-native invasive species encroachment.

Post Fire Observations: Gumplant habitat has been directly impacted by wildland fire. Post-fire recovery is to be expected given the phenology and root structure of this species.

Determinations of Effects:

Fire Effects: Natural regeneration of this species is expected along with the regeneration of associated native species (*Juncus spp.*). However, non-native species may encroach into bare ground areas where the fire affected critical habitat.

Suppression Action Effects: Scratch line was constructed in heavy fuel areas where the Centaury is not typically found. Therefore the determination of suppression effects to Ash Meadows Gumplant is **no effect.**

Proposed Emergency Stabilization Action Effects: Proposed suppression and burn area emergency stabilization actions for the control of non-native invasive species may impact non-target species within the treatment areas that were not located during surveys. Every effort will be made during herbicide applications to avoid spraying non target species. In the event that individual gumplants are within the treatment areas, it was determined that the herbicide treatments may effect individuals but are not likely to effect or cause a trend towards listing, or a loss of population viability of that species. Therefore, the determination of proposed emergency stabilization actions to areas with Ash Meadow Gumplant is **may effect, not likely to adversely effect.**

C. Findings – Vegetation resources were impacted to varying degrees throughout the fire area. The single biggest threat to the recovery of native plant communities and T&E species and their associated habitats is the effective control of non-native species. Planting of natives to stem the spread of Bassia, saltcedar, mustards, and Russian knapweed into bare ground areas is also necessary. Natural regeneration will recover many of the native grasses and forbs within the majority of the fire area. However, the influence of past land disturbance coupled with the disturbance of this wildland fire will pose threats to the loss of biodiversity in many of the plant communities. Field reconnaissance showed that:

1. Natural regeneration is expected to revegetate the majority of the fire area but emergency measures are needed to protect soil productivity and prevent unacceptable expansion of non-native invasive species. This conclusion was supported through the review of the 2000 Fairbanks fire recovery and 2002 Big Springs fire recovery.

2. Native plantings of saltgrass, endemics, and trees within the areas of heavy Bassia, saltcedar, and mustard infestations should be accomplished with other planned treatments by the spring of 2006.

3. There is a high potential for non-native invasive species invasion onto uninfested sites within the burn area. Surveys should be conducted for the next 2 years to locate any new weed occurrences.

4. The implementation of an integrated pest management (IPM) program is required to achieve management directives for non-native invasive species control and emergency stabilization objectives.

IV. RECOMMENDATIONS

A. Emergency Stabilization

1. Native Plantings - Native plantings of grass, forbs, and trees are required to maintain biological integrity and biodiversity of plant communities within the fire area and stem the expected expansion of non-native invasive species.

2. Non-native invasive speciesControl - Implement Integrated Pest Management practices to control existing weed populations within the fire area to prevent further spread of weeds.

3. Non-native invasive species monitoring - Monitor known weed populations and new populations of non-native invasive species; monitor treatment effectiveness and implement adaptive management principles to effectively treat invasives within the Ash fire. Supplemental funding requests may be required based upon monitoring results.

B. Non-specification related recommendations

1. Actively pursue partnerships with The Nature Conservancy, U.S.G.S., Natural Resources Conservation Service, State, County, and Universities to assist in emergency stabilization implementation and monitoring.

2. Continue consultations with USFWS Ecological Services on PUP's and non-native invasive species control measures to ensure protection of T&E species.

3. Thoroughly document treatments and results for annual accomplishment reporting. Pursue supplemental emergency stabilization funding and rehabilitation funding as necessary.

V. CONSULTATIONS

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Dick Birger, Project Leader- USFWS	702-515-5450
Linda L Miller, Deputy Project Leader- USFWS	702-515-5452

VI. REFERENCES

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BURNED AREA EMERGENCY STABILIZATION PLAN
ASH FIRE
Nye County, Nevada
Environmental Compliance Considerations and Documentation

FEDERAL, STATE, AND PRIVATE LANDS ENVIRONMENTAL COMPLIANCE RESPONSIBILITIES

All projects proposed in the Ash Fire Burned Area Emergency Stabilization Plan that are prescribed, funded, or implemented by Federal agencies on Federal, State, or private lands are subject to compliance with the *National Environmental Policy Act* (NEPA) in accordance with the guidelines provided by the *Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508)*. This Appendix documents the teams consideration of NEPA compliance requirements for prescribed emergency stabilization and monitoring actions described in this plan for areas affected by the Ash Fire in Nye County, Nevada.

This plan identifies specific emergency stabilization and monitoring actions designed to mitigate damages to resources that result of the Ash Fire.

Agency Specific Guidance: This NEPA documentation has been developed in accordance with the following agency specific guidelines.

U.S. Fish and Wildlife Service: Emergency stabilization, rehabilitation and monitoring actions proposed on will comply with U.S. Fish and Wildlife Service, NEPA Guidelines, Part 516 (DM 6, Appendix 1).

RELATED PLANS AND CUMULATIVE IMPACTS ANALYSIS

Recovery Plan for the Endangered and Threatened Species of Ash Meadows, Nevada (1990).

Ash Meadows National Wildlife Refuge: *"to conserve (A) fish or wildlife which are listed as endangered species or threatened species….or (B) plants…"* 16 U.S.C. 1534 (Endangered Species Act of 1973).

Proposed Land and Mineral Withdrawal at the Ash Meadows National Wildlife Refuge and Environmental Assessment (2000).

Annual Noxious Weed Control Plan 2004, including NEPA Compliance Documentation and Biological Opinions.

Ash Meadows Fire Management Plan, 2004

Cumulative Impact Analysis*:* Cumulative effects are the environmental impacts resulting from the incremental impacts of a proposed action, when added to other past, present, and reasonably foreseeable future actions, both Federal and nonfederal. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The emergency stabilization treatments for the Ash Fire burned area, as proposed in this plan, do not result in an intensity of impact (i.e. major ground disturbance, etc.) that would cumulatively constitute a significant impact on the quality of the environment. The treatments are consistent with the management and recovery plans and associated environmental compliance documents of the U.S. Fish and Wildlife Service, and categorical exclusions listed below.

No direct or indirect unavoidable adverse impacts to the biological or physical environment would result from the implementation of this Ash Burned Area Emergency Stabilization Plan. The

implementation of emergency noxious weed control and native planting treatments proposed in the plan would not result in any adverse effect on the natural and cultural resources of the burned area. Conversely, implementation of the plan would be expected to result in a cumulatively beneficial effect by reducing the potential for noxious weed invasion and ensuring the recovery of native habitats within the burned area.

APPLICABLE LAWS AND EXECUTIVE ORDERS

This section documents consideration given to the requirements of specific environmental laws in the development of the Ash Fire Burned Area Emergency Stabilization Plan. Specific consultations initiated or completed during development and implementation of this plan are also documented. The following executive orders and legislative acts have been reviewed as they apply to the Ash Fire Burned Area Emergency Stabilization Plan.

1. **National Historic Preservation Act (NHPA).**. This plan provides funds to complete any additional NHPA consultation and documentation requirements.

2. **Executive Order 11988, Floodplain Management.** All proposed treatments are in compliance with this order.

3. **Executive Order 11990, Protection of Wetlands.** All proposed treatments are in compliance with this order.

4. **Executive Order 12372, Intergovernmental Review.** Coordination and consultation is ongoing with affected Tribes, Federal, and local agencies. A copy of the plan will be disseminated to all affected agencies and funding is provided by the plan to facilitate completion of tribal consultations.

5. **Executive Order 12892, Federal actions to address Environmental Justice in Minority and Low-Income Populations**. All Federal actions must address and identify, as appropriate, disproportionately high and adverse human health or low-income populations, and Indian Tribes in the United States, The team has determined that the actions proposed in this plan will result in no adverse human health or environmental effects for minority or low-income populations and Indian Tribes.

6. **Endangered Species Act.** The Refuge wildlife biologist in coordination with Ecological Services biologist have consulted with the U.S. Fish and Wildlife Service regarding actions proposed in this plan and potential affects on Federally listed species and have determined that there is no effect. Individual agencies are responsible for continued consultations during plan implementation as site specific treatments are developed.

7. **Clean Water Act.** All proposed treatments are in compliance with this Act. Emergency stabilization and rehabilitation measures proposed are necessary to maintain clean water within the burn and adjacent areas. Long-term impacts are considered beneficial to water quality.

8. **Clean Air Act.** Federal Ambient Air Quality Primary and Secondary Standards are provided by the National Ambient Air Quality Standards, as established by the U.S. Environmental Protection agency (EPA) (Clean Air Act, 42 U.S.C. 7470, et seq., as amended). The team has determined that treatments prescribed in the Ash Fire burned area will have short-term minor impacts to air quality that would not differ significantly from routine land use practices for the area. Long-term treatments proposed in the plan would be expected to have a beneficial impact to air quality through stabilization of ash and soils within the Ash Fire burned area.

9. **Wilderness Act.** The Ash Fire did not impact designated or proposed wilderness.

APPLICABLE AND RELEVANT CATEGORICAL EXCLUSIONS

All treatment actions proposed in this plan are Categorically Excluded from further environmental analysis as provided for in the Department of the Interior Manual Part 516. All applicable and relevant Department and Agency Categorical Exclusions are listed below. Categorical Exclusion decisions were made with consideration given to the results of required emergency consultations completed by the team and documented in Section E below.

Applicable Department of the Interior Categorical Exclusions

Part 516 DM 2, App. 1.1	Personnel actions and investigations and personnel services contracts.
Part 516 DM 2, App. 1.4	Law enforcement and legal transactions, including such things as arrests, investigations, patents, claims, legal opinions, and judicial activities including their initiation, processing, settlement, appeal, or compliance.
Part 516 DM 2, App. 1.6	Non-destructive data collection, inventory (including field, aerial and satellite surveying and mapping), study, research and monitoring activities.
Part 516 DM 2, App. 1.7	Routine and continuing government business, including such things as supervision, administration, operations, maintenance and replacement activities having limited context and intensity; e.g. limited size and magnitude or short-term effects.
Part 516 DM 2, App. 1.11	Activities which are educational, in formational, advisory or consultative to other agencies, public and private entities, visitors, individuals or the general public.
Part 516 DM 6 App. 4.4 M (2)	Establishment of non-disturbance environmental quality monitoring programs and field monitoring stations including testing services.

Applicable U.S. Fish and Wildlife Service Categorical Exclusions

(1) Research, inventory, and information collection activities directly related to the conservation of fish and wildlife resources which involve negligible animal mortality or habitat destruction, no introduction of contaminants, or no introduction of organisms not indigenous to the affected ecosystem.

(3) The construction of new, or the addition of, small structures or improvements, including structures and improvements for the restoration of wetland, riparian, instream, or native habitats, which result in no or only minor changes in the use of the affected local area. The following are examples of activities that may be included.

i. The installation of fences.
ii. The construction of small water control structures.
iii. The planting of seeds or seedlings and other minor revegetation actions.
iv. The construction of small berms or dikes.
v. The development of limited access for routine maintenance and management purposes.

(5) Fire management activities including prevention and restoration measures, when conducted in accordance with departmental and Service procedures.

CONSULTATIONS

U.S. Fish and Wildlife Service

Richard Hadley, Assistant Refuge Supervisor, California/Nevada Refuges
Dick Birger, Project Leader, Desert National Wildlife Refuge Complex
Linda Miller, Deputy Project Leader, Desert National Wildlife Refuge Complex
Lee Nelson, Fire Management Officer, Desert National Wildlife Refuge Complex
Cristi Baldino, Wildlife Biologist, Ash Meadows National Wildlife Refuge
Sharon McKelvey, Refuge Manager, Ash Meadow National Wildlife Refuge
Shawn Goodchild, Wildlife Biologist, Ecological Services, Las Vegas, Nevada

NEPA CATEGORICAL EXCLUSION DOCUMENTATION AND DECISION

Longstreet Fire Burned Area Emergency Stabilization Plan

NEPA CHECKLIST: Based on 516 DM 2, Appendix 2, if any of the following exception applies, the BAER plan cannot be Categorically Excluded and an Environmental Assessment (EA) is required.

(Yes)	(No)	
☐	☒	Adversely affects Public Health and Safety
☐	☒	Adversely affects historic or cultural resources, wilderness, wild and scenic rivers, aquifers, prime farmlands, wetlands, floodplains, ecologically critical areas, or Natural Landmarks.
☐	☒	Has highly controversial environmental effects.
☐	☒	Has highly uncertain environmental effects or involve unique or unknown environmental risks.
☐	☒	Establishes a precedent resulting in significant environmental effects.
☐	☒	Relates to other actions with individually insignificant, but cumulatively significant environmental effects.
☐	☒	Adversely affects properties listed or eligible for listing in the National Register of Historic Places.
☐	☒	Adversely Affects a species listed or proposed to be listed as Threatened or Endangered.
☐	☒	Threatens to violate any laws or requirements imposed for the protection of the environment such as Executive Order 11988 (Floodplain Management) or Executive Order 11990 (Protection of Wetlands).

NATIONAL HISTORIC PRESERVATION ACT

Ground Disturbance:

☐ None

☒ Ground disturbance will occur and an archeologist survey, required under section 110 of the NHPA will be prepared. A report will be prepared as specified by the BAER plan.

A NHPA Clearance Form:

☒ Is required because the project may affect sites that are eligible for or listed on the National Register. The clearance form is attached as the Cultural Assessment of the Longstreet Fire BAER Plan. The Nevada SHPO has been consulted under Section 106 (see Cultural Resource Assessment, Appendix I).

☐ Is not required because the BAER plan has no potential to affect cultural resources (_____ initials of cultural resource specialist).

OTHER REQUIREMENTS

(Yes)	(No)	
☐	☒	Does the BAER plan have potential to affect any Native American uses? If so, consultation with affiliated tribes is needed.
☒	☐	Are any toxic chemicals, including pesticides or treated wood, proposed for use? If so, l local agency integrated pest management specialists must be consulted.

CONCURRENCE AND SIGNATURES

I have reviewed the proposals in the Ash Fire Burned Area Emergency Stabilization Plan in accordance with the criteria above and have determined that the proposed actions would not involve any significant environmental effects. Therefore, the plan is categorically excluded from further environmental (NEPA) review and documentation. The Team technical specialists have initiated necessary coordination and consultation to ensure compliance with the National Historic Preservation Act, Endangered Species Act, Clean Water Act and other Federal, State, and local environmental review requirements. The plan provides funding to continue and complete necessary consultations as site specific treatments are developed.

Refuge Manager, Ash Meadows National Wildlife Refuge **Date**

( ) I concur and it is my decision to approve the plan.
( ) I do not concur because.

Project Leader, Desert National Wildlife Refuge Complex **Date**

( ) I concur and it is my decision to approve the plan.
( ) I do not concur because.

APPENDIX III – MAPS

APPENDIX IV – PHOTO DOCUMENTATION

Big Springs Outflow, Moderate fire intensity

Marsh habitat with mesquite skeletons